Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for compensating parasitic capacitances in a micro-electric-mechanical sensor having a fixed body and a moving mass, forming first and second detection capacitors, connected to a common node and to a first_and second detection node respectively and having a common rest detection capacitance, the method comprising:

feeding said common node with a detection voltage; and

maintaining said first and second detection node at a constant common mode voltage through a feedback voltage, the maintaining step including feeding said common node with a compensating electric quantity, inversely proportional to said common rest detection capacitance in at least one predetermined interval.

2. (Currently Amended) A method according to claim 1, further comprising the step of measuring said common rest detection capacitance.

3. (Original) A method according to claim 2 wherein said measuring step comprises the steps of:

detecting said feedback voltage; and

storing said feedback voltage.

4. (Currently Amended) A method according to claim 1, further comprising the step of generating said compensating electric quantity, that is, in a first approximation and in said interval, in inverse proportion to said common rest detection capacitance.

5. (Original) A method according to claim 4, wherein said step of generating said compensating electric quantity comprises amplifying said feedback voltage with negative gain.

6. (Original) A method according to claim 4, wherein said step of generating said compensating electric quantity comprises the steps of:

supplying amplifying means having a variable gain;

controlling said variable gain through said feedback voltage.

7. (Original) A method according claim 1, further including the step of supplying said feedback voltage to said first and second detection node through a first and second feedback capacitor, respectively.

8. (Original) A method according to claim 1 wherein said detection voltage is a constant voltage with a predetermined duration.

9. (Original) A method according to claim 1 wherein, before performing said step of supplying said compensating electric quantity, the step of removing said detection voltage from said common node is performed.

10. (Currently Amended) A method for detecting a movement of a micro-electric-mechanical sensor having a fixed body and a moving mass, forming first and second detection capacitors, connected to a common node and to first and second detection nodes, respectively, and having a common detection rest capacitance and a capacitive unbalance following a movement of said moving mass; the method comprising:

feeding said common node with a detection voltage;

maintaining said first and the second detection node at a constant common mode voltage through a feedback voltage;

detecting an output quantity related to said capacitive unbalance; and feeding said common node with a compensating electric quantity, inversely proportional to said common detection rest capacitance in at least one predetermined interval.

11. (Original) A circuit for detecting movements through a micro-electric-mechanical sensor having a fixed body and a moving mass, forming first and second detection capacitors, connected to a common node and to first and second detection nodes, respectively and having a common detection rest capacitance; the circuit comprising:

detection amplifying means, having inputs connected to said first and second detection capacitor, respectively and an output supplying an output voltage related to a voltage present on said common node;

a feedback stage, connected to said first and second detection node and generating a feedback voltage, maintaining said first and second detection node at a constant common mode voltage; and

a compensating stage, receiving said feedback voltage and feeding said common node with a compensating electric quantity, inversely proportional to said common detection rest capacitance in at least one predetermined interval.

12. (Original) A circuit according to claim 11, wherein said compensating stage comprises memory means connected to said feedback stage and storing said feedback voltage, and a linear amplifier connected to said memory means and having a negative gain.

13. (Original) A circuit according to claim 12, wherein said linear amplifier comprises an operational amplifier in inverting configuration, having an inverting input connected to said memory means, a non-inverting input connected to a reference potential line and an output connected to said common node.

14. (Currently Amended) A circuit according to claim 12, wherein said linear amplifier is a linear amplifier with controllable gain.

15. (Original) A circuit according to claim 14, wherein said linear amplifier comprises a variable-resistance resistive element, having a control terminal connected to said memory means.

16. (Original) A circuit according to claim 15, wherein said linear amplifier further comprises an operational amplifier having an inverting input connected to a reference voltage source supplying a constant reference voltage, a non-inverting input connected to a reference potential line and an output connected to said common node.

17. (Original) A method for compensating for effects of spurious movements of an electro-mechanical sensor in a detection circuit, comprising:

comparing capacitances of first and second detection capacitors formed between a moving mass of the electro-mechanical sensor and a fixed body of the sensor, wherein the moving mass is a common node of the first and second capacitors;

measuring a common detection capacitance of the sensor; and

introducing a compensation voltage, inversely proportionate to the common detection capacitance, to the common node of the sensor.

18. (Original) The method of claim 17 wherein the measuring step comprises periodically storing a feedback voltage of the detection circuit;

19. (Original) The method of claim 18 wherein the compensation voltage is derived from the stored feedback voltage, and wherein the introducing step comprises introducing the compensation voltage in periods alternating with the periods of the storing step.

20. (Original) A device, comprising:

an electro-mechanical sensor having a movable mass and a fixed body, configured to detect motion in a first axis and including first and second detection capacitors formed

between the movable mass and the fixed body, the movable mass being a common node of the first and second capacitors;

a first circuit, configured to compare capacitances of the first and second capacitors and provide an output voltage proportionate to a difference of the capacitances; and

a second circuit, configured to supply a compensation voltage to the common node, inversely proportionate to a common capacitance of the sensor.

21. (Original) The device of claim 20 wherein the first circuit includes a feedback network having a feedback voltage proportionate with the common capacitance of the sensor.

22. (Original) The device of claim 21 wherein the second circuit comprises:

an input coupled with the feedback network;

a memory configured to periodically store the level of the feedback voltage;

an amplifier configured to receive the stored feedback voltage level during intervals between the periods of storage in the memory and to output the compensation voltage; and

an output coupling the amplifier output with the common node.

23. (Original) The device of claim 22 wherein a gain of the amplifier is modified by the stored feedback voltage level.

24. (New) A method for operating an electro-mechanical sensor in a detection circuit, comprising:

detecting a change in capacitance of first and second detection capacitors formed between a movable mass of the sensor and a fixed body of the sensor;

providing, during the detecting step, an output value proportionate to a capacitive unbalance between the first and second detection capacitors;

storing, during the detecting step, a value corresponding to a common detection capacitance of the sensor; and

compensating, in the detection circuit, and during the detecting step, for changes in the common detection capacitance.

25. (New) The method of claim 24 wherein the compensating step includes introducing to the detection circuit a compensation value, inversely proportionate to the common detection capacitance of the sensor.

26. (New) The method of claim 25 wherein the movable mass is a common node of the first and second capacitors, and wherein the introducing step comprises introducing the compensation value to the common node.